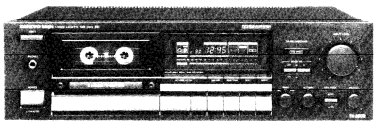
SERIAL NO. 3300

# ONKYO SERVICE MANUAL

## STEREO CASSETTE TAPE DECK MODEL TA-2600



Black model

| | |
|---|---|
| UD,UD Ⓝ | 120V AC, 60Hz |
| UG | 220V AC, 50Hz |
| UW | 120 or 220V AC, 50/60Hz |
| UQA, UQB | 240V AC, 50Hz |

**SAFETY-RELATED COMPONENT WARNING!!**

COMPONENTS IDENTIFIED BY MARK ⚠ ON THE SCHEMATIC DIAGRAM AND IN THE PARTS LIST ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE THESE COMPONENTS WITH ONKYO PARTS WHOSE PARTS NUMBERS APPEAR AS SHOWN IN THIS MANUAL.

MAKE LEAKAGE-CURRENT OR RESISTANCE MEASUREMENTS TO DETERMINE THAT EXPOSED PARTS ARE ACCEPTABLY INSULATED FROM THE SUPPLY CIRCUIT BEFORE RETURNING THE APPLIANCE TO THE CUSTOMER.

ONKYO®
AUDIO COMPONENTS

## SPECIFICATIONS

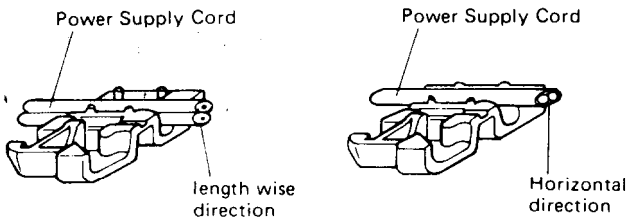
| | |
|---|---|
| Track Format: | 4-tracks, 2-channels |
| Erasing System: | AC erase |
| Tape Speed: | 4.8 cm/sec. (1-7/8 i.p.s.) |
| Wow and Flutter: | 0.045% (WRMS) |
| Frequency Response: | 20 – 17,000Hz (Normal)<br>(30 – 16,000Hz ±3dB)<br>20 – 18,000Hz (High)<br>(30 – 17,000Hz ±3dB)<br>20 – 19,000Hz (Metal)<br>(30 – 18,000Hz ±3dB) |
| S/N Ratio: | 60dB (metal tape, Dolby NR off)<br>A noise reduction of 10dB above 5kHz and 5dB at 1kHz is possible with Dolby B NR. A noise reduction of 20dB at 5kHz is possible with Dolby C NR. |
| Input Jacks: | Line IN: 2<br>Input sensitivity: 60mV<br>Input impedance: 50kohms |
| Outputs: | Line OUT: 2<br>Standard output level: 500mV (0dB)<br>Optimum load impedance: over 50 kohms<br>Headphone jack: 1<br>Optimum load impedance: 8 to 200 ohms |
| Motors: | DC servo motor: 1<br>DC motor: 2 |
| Heads: | REC/PB: Special Hard Permalloy x 1;<br>Erase head: Ferrite x 1 |
| Power Supply Rating: | U.K. and Australian models:<br>AC 240V, 50Hz<br>U.S.A. and Canadian models:<br>AC 120V, 60Hz<br>Worldwide models:<br>AC 120V and 220V switchable, 50 / 60Hz |
| Power Consumption: | 19 watts |
| Dimensions: | 435(W) x 132(H) x 366(D)mm<br>(17-1/8" x 5-3/16" x 14-3/8") |
| Weight: | 5.8 kg. (12.8 lbs.) |

Specifications and external appearance are subject to change without notice because of product improvements.

# SERVICE PROCEDURES

**1. Replacement of power supply cord**

There are two power supply cord outlets on the strainrelief. Insert them in prescribed direction to ensure safety. AS-UC-3 (UD<120V> model) should be inserted lengthwise and other types of cords should be inserted horizontally.



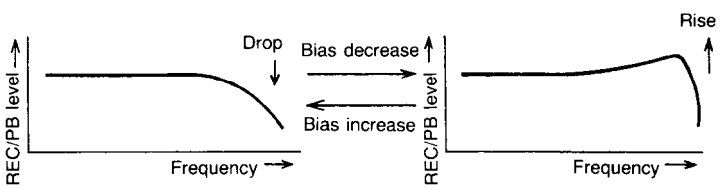

**2. Insulating resistance measurement**

Connect the insulating-resistance tester between the plug of power supply cord and chassis.
Specifications; 500V more than 10MΩ

# HX PRO CIRCUIT OPERATION EXPLANATION

**1. Regarding recording frequency characteristic and bias**

Ordinarily, if the recording bias current is increased, REC/PB frequency response level in the high frequency region (about 10KHz and above) drops, and if the bias is decreased, the response rises.




**2. Regarding the basic operation of HX PRO (Refer to Fig. 1)**

The HX PRO uses the μ PC1297CA IC. The operation is in accordance with the following.

1) At (a), the recording bias is added onto the audio signal, and the recording signal is detected. This is the same as the recording head recording the signal on the tape.
2) The signal of 1) preserves the frequency response with the integrated circuit of (b).

$$\text{Frequency} = \frac{R450 + R448}{2\pi \times C426 \times R450 \times R448} \quad (2.1)$$

By means of the frequency of Fig. 1, the frequency which is effective from the beginning is determined. In the ordinary situation, this is half the audio band (10KHz), (10KHz ~ 7.5KHz).

3) At (c), in order to use the affected waveform after-ward, absolute detection is carried out.
4) At (d), the waveform peak value is detected. The output becomes the peak DC voltage.
5) At (e), the standard voltage and the voltage of (4) are compared.
6) With the output of (e), the frequency generation level is controlled (voltage controlled amplifier). That is, the bias size is varied.
7) Summing up 1) ~ 6):
   At (a), the time constant (frequency) that is detected in the recording signal is preserved, and above a certain frequency and above a certain level, the VCA controls the bias current by causeing its reduction. When this is done, in the maner shown in the explanation of Item I above, the frequency high region is raised. With this control, the audio signal is instantaneously dealt with.

**3. Regarding the operating conditions of the HX PRO**

1) With equation (2. 1) noted above, the effect begins at the frequency thus determined.
2) Above a certain level the effect begins.
   (Substantially 0 dB: In the vicinity of 500mV line out)
   The audio signal component level is dependent upon the waveform after point (c).

# HX PRO BLOCK DIAGRAM

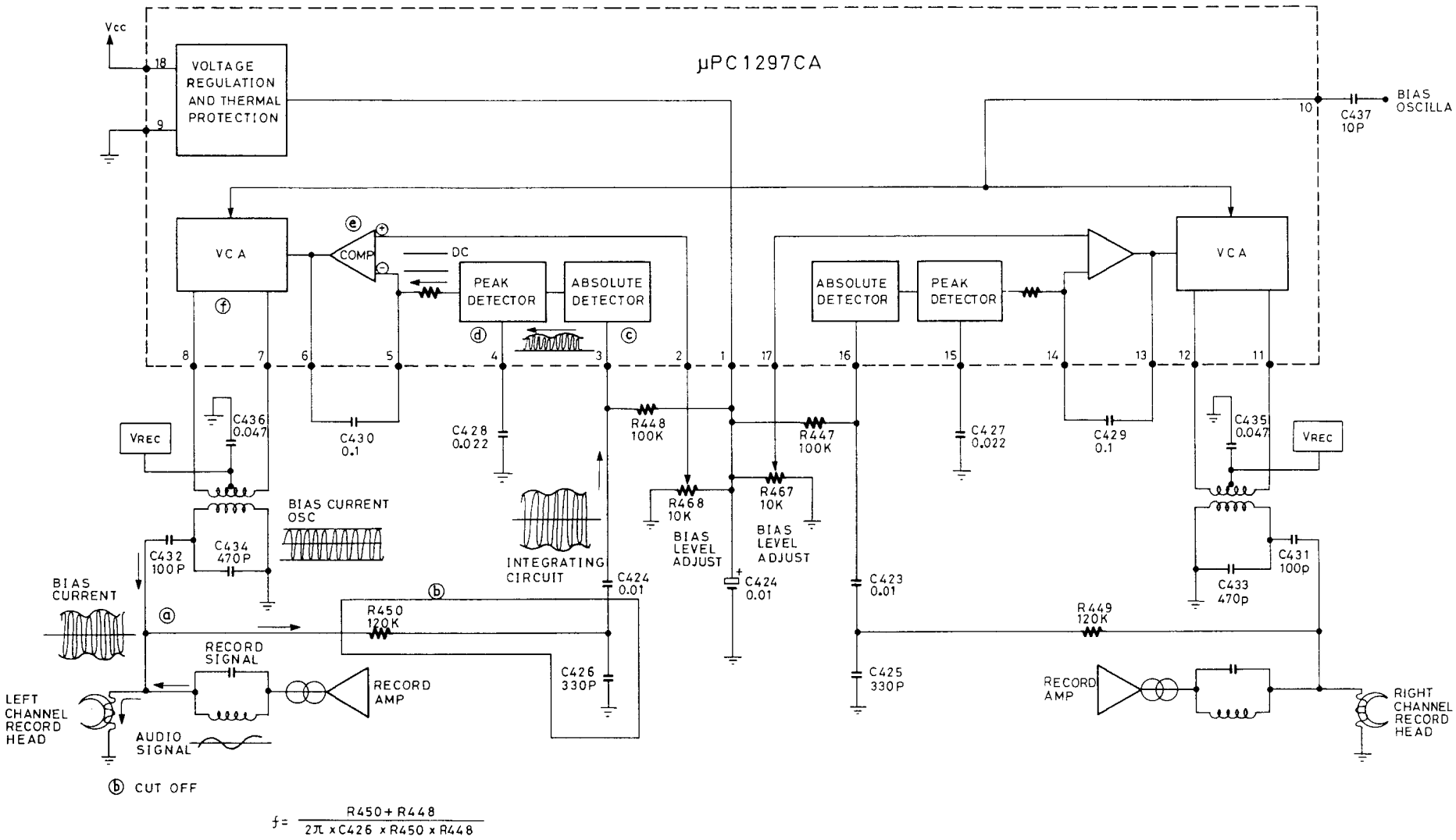
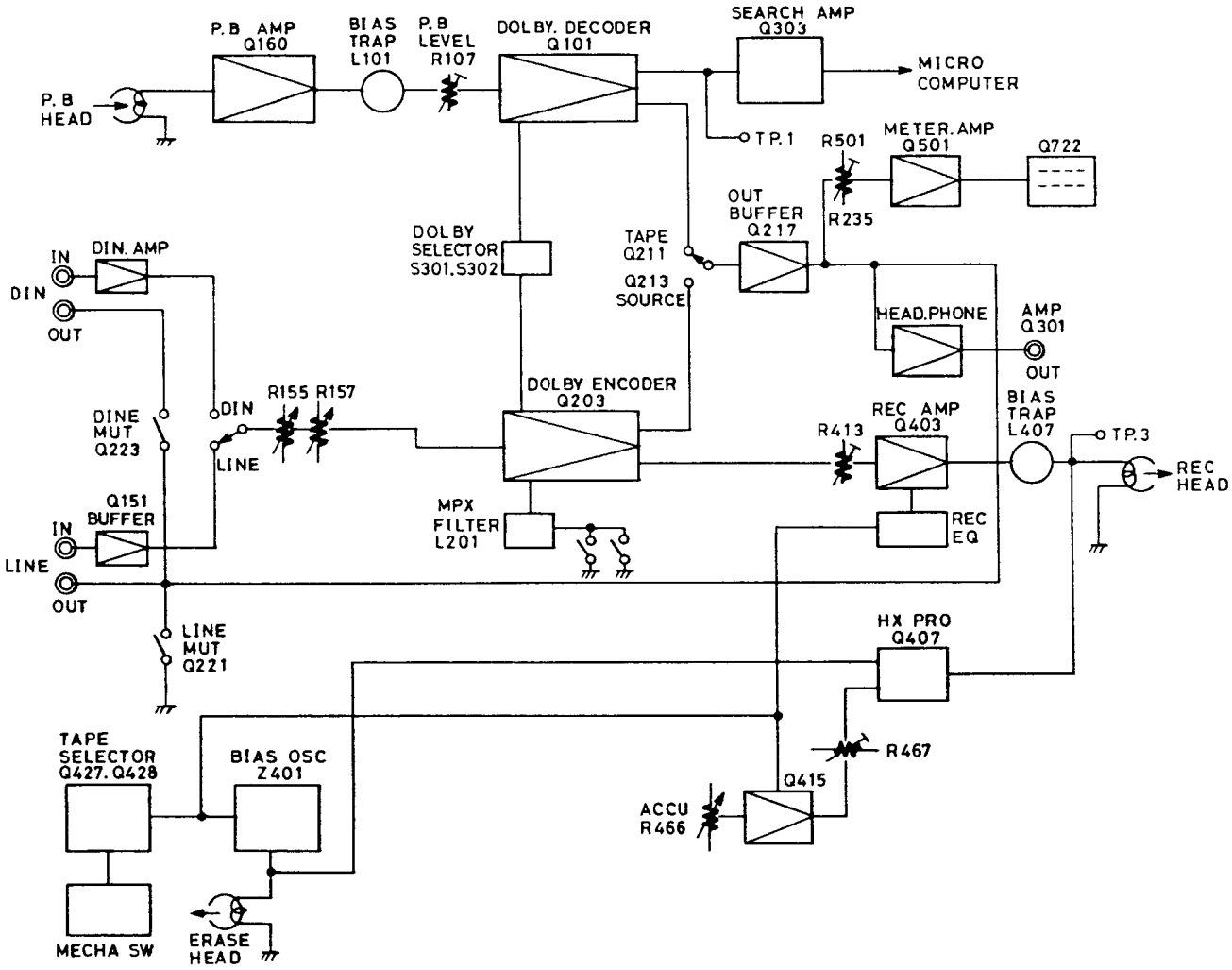
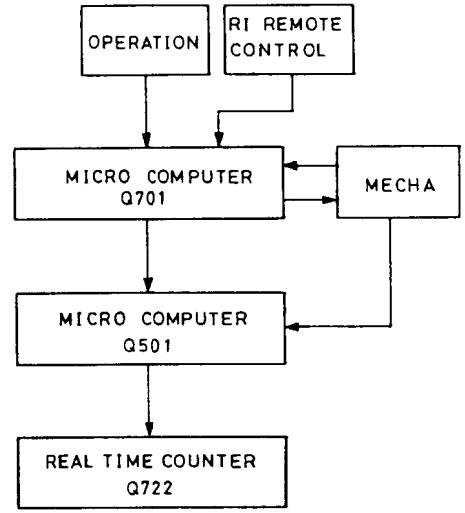
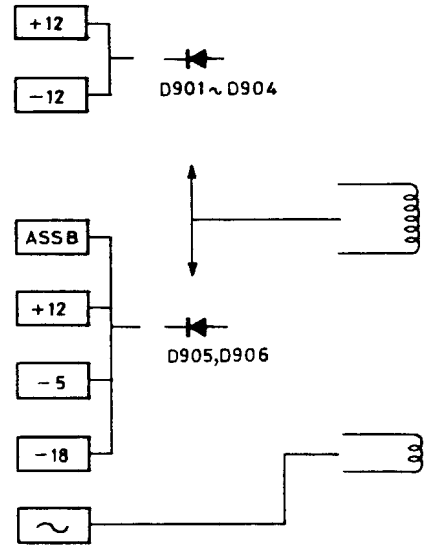



Fig. 1

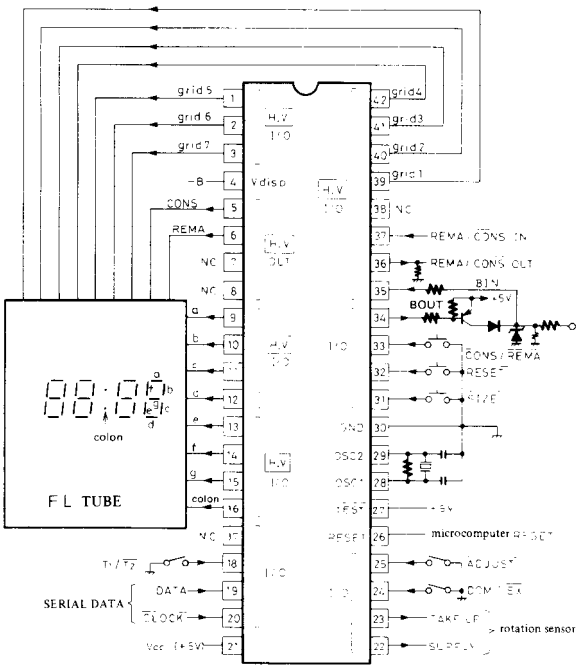
# BLOCK DIAGRAM



## HD614128SA41 (COUNTER)




**Terminal Name and Function**

| Pin No. | Name | Function |
|---|---|---|
| 1 ~ 3 | Grid 5 ~ 7 | FL tube grid (DIGIT) drive use output |
| 4 | $V_{disp}$ | Input (FL tube use) for minus bias voltage to pin Nos. 1 ~ 3, 5, 6, 9 ~ 16, 39 ~ 42 |
| 5 | CONS | FL tube CONS display use output (time lapse) |
| 6 | REMA | FL tube REMA display use output (time remaining) |
| 9 ~ 15 | a ~ g | FL tube segment drive use output |
| 16 | Colon | FL tube ":" drive use output |
| 18 | $T_1/\overline{T_2}$ | Microcomputer $T_1/\overline{T_2}$ function selection input (With $T_2$, system I/O receiving) |
| 19 | DATA | Deck mechanism status input (8 bit serial data) from mechanism control microcomputer |
| 20 | $\overline{CLOCK}$ | Clock input for reading above DATA (DATA taken on pulse wave dropping) |
| 21 | Vcc | Microcomputer power source (+5V) |
| 22 | SUPPLY | Cassette mechanism tape feed side turning pulse input |
| 23 | TAKE UP | Cassette mechanism tape windup side turning (pulse input) |
| 24 | DOM/$\overline{EX}$ | Domestic/export setting use selector input (Tape size type selector use)<br>Domestic: With power ON C46 → C54 → C60 → C80 → C90 → C120 |
| 25 | $\overline{ADJUST}$ | Remaining time calculation buffer compensating value input (normally open, compensating ground) |
| 26 | RESET | Microcomputer system reset |
| 27 | $\overline{TEST}$ | Microcomputer internal test use port, normally connected to Vcc |
| 28, 29 | OSC1, OSC2 | Microcomputer clock oscillator terminal |
| 30 | GND | Microcomputer power source (GND) |
| 31 | $\overline{SIZE}$ | Tape size selector input |
| 32 | $\overline{RESET}$ | Lapsed time reset input (When CONS displays, digits are □ : □ □) |
| 33 | $\overline{CONS/REMA}$ | Lapsed time ← → remaining time selector input (toggle display) |
| 34 | $\overline{BOUT}$ | System bus output |
| 35 | BIN | System bus input |
| 36 | REMA/$\overline{CONS}$ OUT | Remaining time display/lapsed time display status output (when $\overline{T_2}$) |
| 37 | REMA/$\overline{CONS}$ IN | Remaining time display/lapsed time display status input (when $\overline{T_2}$) |
| 39 ~ 42 | Grid 1 ~ 4 | FL tube grid (DIGIT) drive use output |

# ADJUSTMENT PROCEDURES

**PRECAUTIONS**

1. Before adjustment, clean the following parts with an alchol moinstend swab.
   * record/playback head
   * erase head
   * pinch roller
   * capstan
2. Do not use magnetized screwdriver for adjustments.
3. Demagnetize record/playback head with a head demagnetizer.

**TEST EQUIPMENT/TOOLS REQUIRED:**

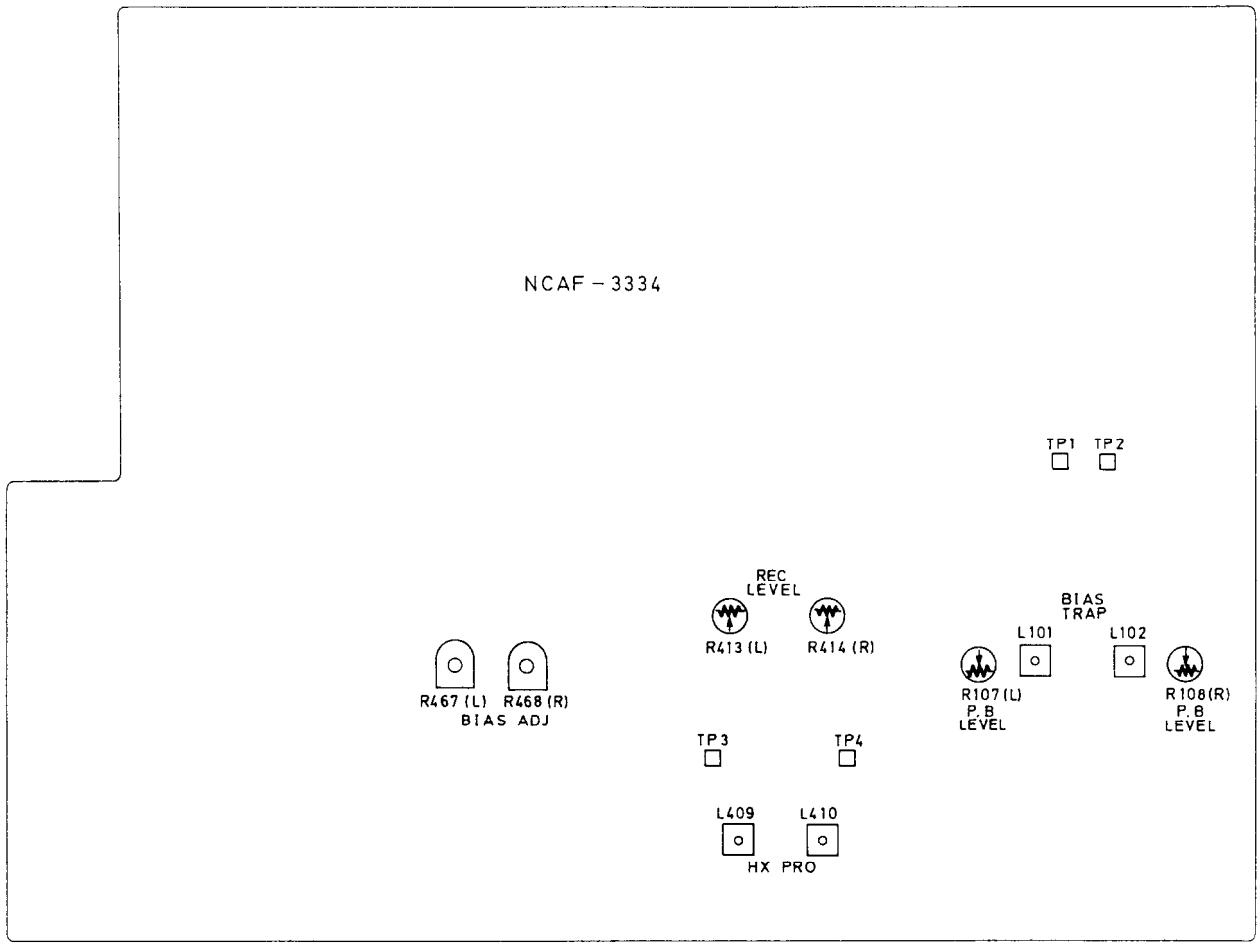
Audio oscillator
Digital frequency counter
Oscilloscope
Attenuator
AC voltmeter
Non-magnetic screw driver
Test tapes
VTT-658 : 10 KHz, −15dB
MTT-111 : 3 kHz, −10dB
MTT-150 : Dolby level calibration 400Hz, tone 200nWb/m

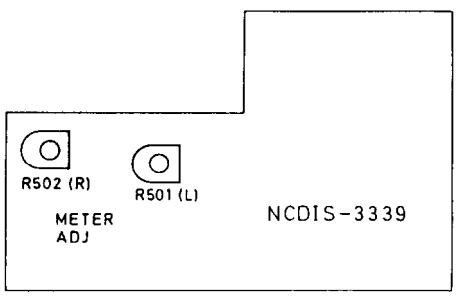
| | Item | Connection of instrument | Line input | Test tape | Mode | Output indicator | Adjustment point | Adjust | Remarks |
|---|---|---|---|---|---|---|---|---|---|
| 1 | Tape Speed | Frequency counter to LINE output terminal | | MTT-111 | PB | Frequency counter | Semi-fixed on the motor | 3,005 to 3,010Hz | |
| 2 | Head azimuth | AC voltmeter and oscilloscope to LINE output terminal | | VTT-658 | PB | AC voltmeter | Head azimuth screw | Maximum and same phase at channels L and R | Fig-1 |
| 3 | Playback level | AC voltmeter to terminals TP-1 and TP-2 | | MTT-150 | PB | AC voltmeter | R-107 (Ch.L) R-108 (Ch.R) | 245mV | |
| 4 | Meter | | | MTT-150 | PB | Level meter | R-501 (Ch.L) R-502 (Ch.R) | 0dB | NADIS-3339 |
| 5 | Bias trap | AC voltmeter to terminals TP-1 and TP-2 | | METAL TAPE | REC | AC voltmeter | L-101 (Ch.L) L-102 (Ch.R) | Minimum | |
| 6 | HX-PRO | AC voltmeter to terminals TP-3 and TP-4 | | METAL TAPE | REC | AC voltmeter | L-409 (Ch.L) L-410 (Ch.R) | Maximum | R-467 R-468 counter clock wise |
| 7 | Bias current | AC voltmeter to LINE output terminal | 1kHz, −20dB and 12kHz, −20dB | NEW XL-II90 | REC/PB | AC voltmeter | R-467 (Ch.L) R-468 (Ch.R) | Same level at REC/PB | Input VR maximum |
| 8 | Record level | Fig-2 | 1kHz | | REC | AC voltmeter | Attenutor or AF OSC output | 350mV | Input VR maximum |
| | | | | | REC/PB | AC voltmeter | R-413 (Ch.L) R-414 (Ch.R) | Same level at REC/PB | |

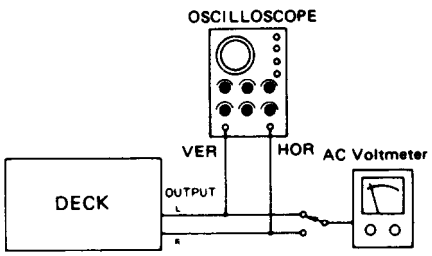
Blank tape

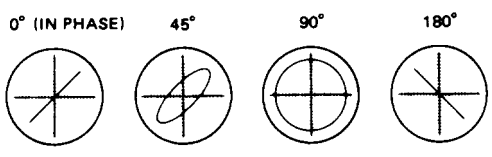
NORMAL . . . . . UD-1 C-90
HIGH . . . . . XL-II C-90
METAL . . . . . MX C-90

PLAY torque . . . . . 30 – 60g/cm
FF.REW torque . . . . . 70 – 140g/cm
Back tension . . . . . 2 – 5g/cm




Confirming phase relationship

fig-1

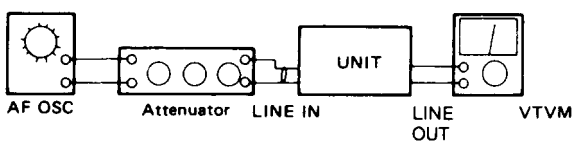
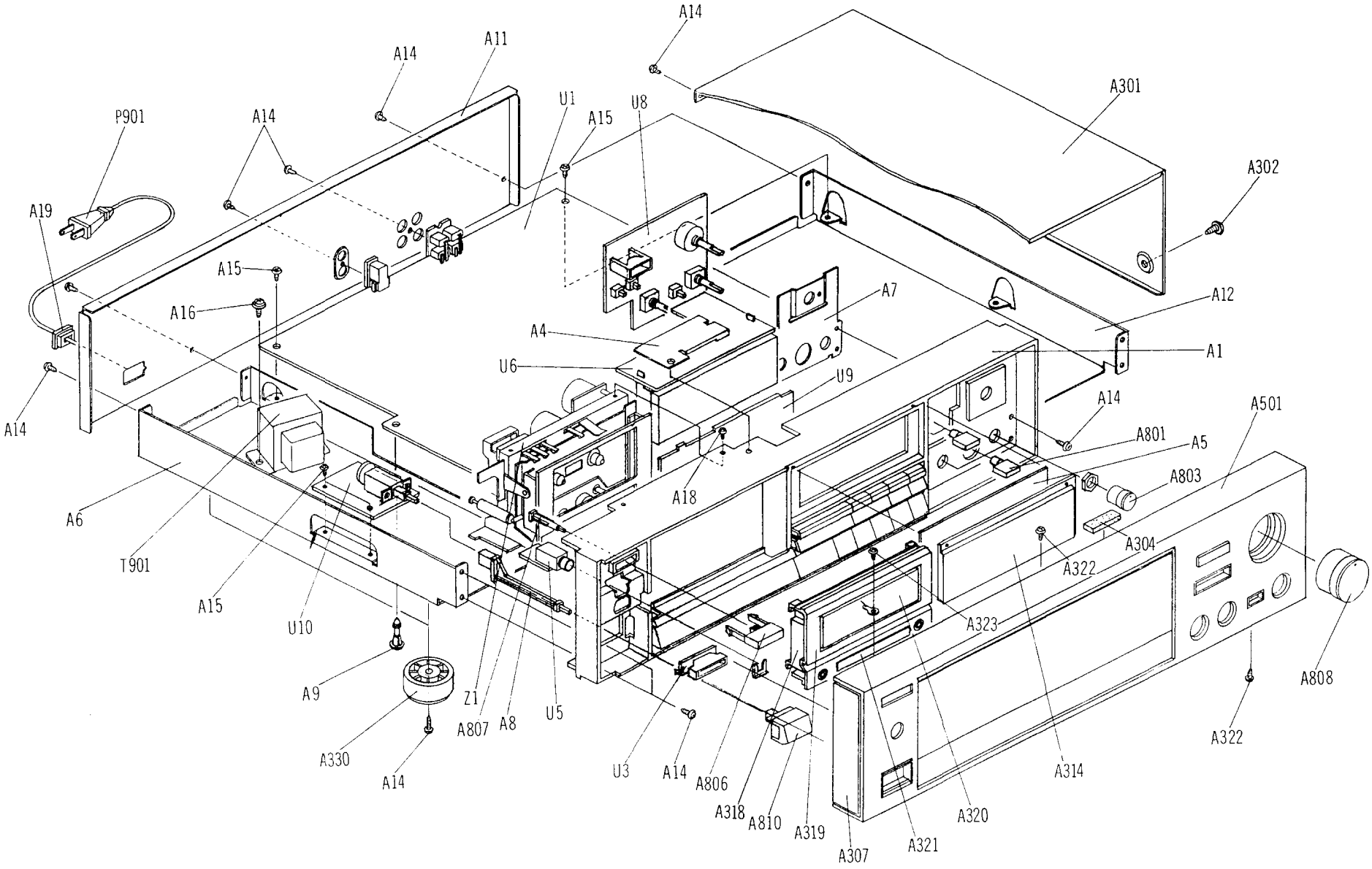



fig-2

# CHASSIS-EXPLODED VIEW



# CHASSIS-EXPLODED VIEW PARTS LIST

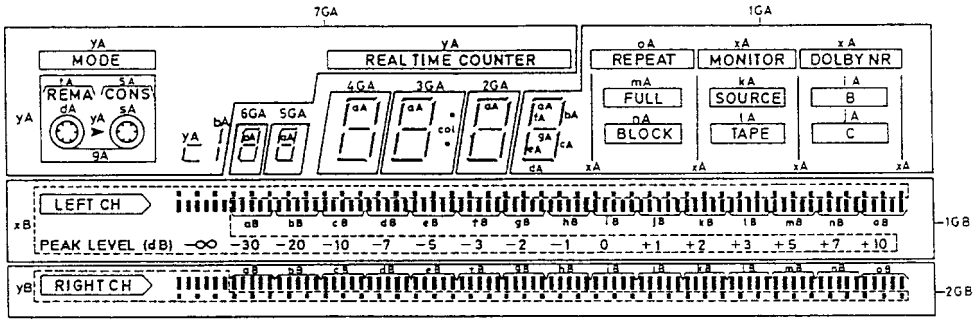
| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| A1 | 27110420A | FRONT BRACKET AS |
| A4 | 27141273 | BRACKET (PC) |
| A5 | 28133200 | BACK PLATE |
| A6 | 27130536A | BRACKET (PT) |
| A7 | 27130537A | BRACKET (VOL) |
| A8 | 27273069A | JOINT (POW) |
| A9 | 27190524 | HOLDER |
| A11 | 27121117 | BACK PANEL (D) |
| | 27121118 | BACK PANEL (G) |
| | 27121119 | BACK PANEL (W) |
| | 27121180 | BACK PANEL (Q) |
| A12 | 27100164B | CHASSIS |
| A14 | 834430088 | TAP-TIGHT SCREW 3TTS+8BBC |
| A15 | 831130088 | TAP-TIGHT SCREW 3TTW+8B |
| A16 | 830440109 | TAP-TIGHT SCREW 4TTC+10CB |
| A18 | 838426088 | TAP-TIGHT SCREW 2.6TTB+8B |
| A19 | 27300750 | BUSHING (CORD) |
| A20 | 28140877 | CUSHION |
| A21 | 28140881 | CUSHION |
| A22 | 27270214A | SPACER |
| A301 | 28184397 | TOP COVER |
| A302 | 838440089 | TAP-TIGHT SCREW 4TTB+8CBC |
| A304 | 28140408 | CUSHION |
| A307 | 28125194-1 | END CAP (L) |
| A308 | 28125195-1 | END CAP (R) |
| A309 | 27267553A | GUIDE (VOL) |
| A310 | 28194297 | COSMETIC BAR |
| A311 | 27267481B | GUIDE (POW) |
| A312 | 28198670 | FACET (POW) |
| A314 | 28191469 | CLEAR PLATE |
| A316 | 28191472 | CLEAR PLATE (RE) |
| A318 | 27301123A | CASSETTE LID |
| A319 | 27301122 | CASSETTE LID (AL) |
| A320 | 28400413 | WINDOW |
| A321 | 28135153 | BADGE |
| A322 | 833430080 | TAP-TIGHT SCREW 3TTP+8PBC |
| A323 | 834230108 | TAP-TIGHT SCREW 3TTS+10BNi |
| A330 | 27175153 | LEG |
| A501 | 1N041121 | FRONT PANEL |
| A801 | 28323388A | KNOB (PUSH) |
| A803 | 28323389 | KNOB (BAL) |
| A806 | 28323287 | KNOB (EJECT) |
| A807 | 27260279 | SHAFT (EJ) |
| A808 | 28323395 | KNOB (LEV) |
| A810 | 28323175 | KNOB (POW) |

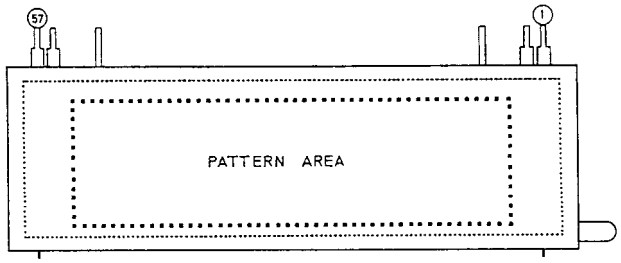
| REF.NO. | PART NO. | DESCRIPTION |
|---|---|---|
| ⚠ P901 | 253112A | AC CORD AS-UC-4 (D) |
| | 253149 | AC CORD AS-CEE (G/W) |
| | 253104 | AC CORD C2.5BS2 (Q) |
| ⚠ S902 | 25065123 | NSS-1258P (W) |
| ⚠ T901 | 2300335 | NPT-1003D (D) |
| | 2300336 | NPT-1003G (G) |
| | 2300337 | NPT-1003DG (W) |
| | 2300359 | NPT-1003Q (Q) |
| U1 | 1N040534-1 | NAAF-3334-1 (D/W) |
| | 1N040534-1A | NAAF-3334-1A (G/Q) |
| U3 | 1N040536-1 | NADIS-3336-1 |
| U4 | 1N040537-1 | NASW-3337-1 |
| U5 | 1N040538-1 | NAETC-3338-1 |
| U6 | 1N040539-1 | NADIS-3339-1 |
| U7 | 1N040540-1 | NAAF-3340-1 |
| U8 | 1N040541-1 | NAAF-3341-1 |
| U9 | 1N040542-1 | NASW-3342-1 |
| U10 | 1N040543-1 | NASW-3343-1 |
| Z1 | 244114 | NDM-106,CASSETTE DECK MECHANISM |

NOTE: (D): Only 120V model
(G): Only 220V model
(W): Only Worldwide model
(Q): Only 240V model

NOTE: THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR RISK OF FIRE AND ELECTRIC SHOCK. REPLACE ONLY WITH PARTS NUMBER SPECIFIED.

## BG-555G (DISPLAY TUBE)



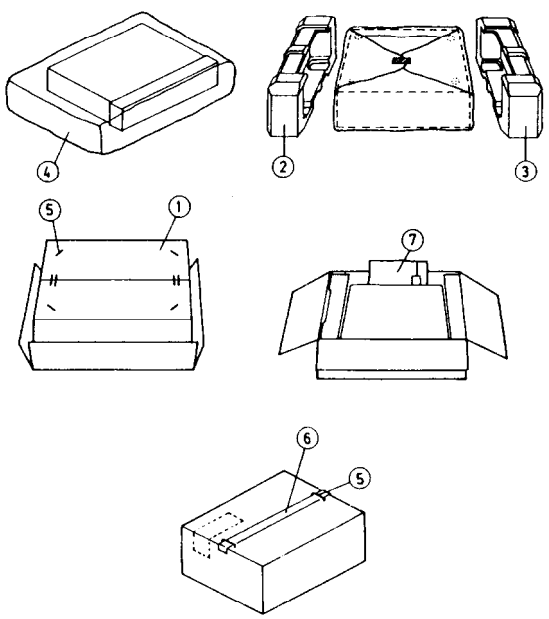




## PIN CONNECTION

| PIN NO. | 40 | 39 | 38 | 37 | 36 | 35 | 34 | 33 | 32 | 31 | 30 | 29 | 28 | 27 | 26 | 25 | 24 | 23 | 22 | 21 | 20 | 19 | 18 | 17 | 16 | 15 | 14 | 13 | 12 | 11 | 10 | 9 | 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONNECTION | nB | oB | yB | xB | 2GB | 1GB | NP | NP | tA | sA | yA | 7GA | 6GA | 5GA | 4GA | 3GA | 2GA | hA | gA | fA | eA | dA | cA | bA | aA | 1GA | xA | rA | qA | pA | oA | nA | mA | lA | kA | jA | iA | NP | F1 | F1 |

| PIN NO. | 57 | 56 | 55 | 54 | 53 | 52 | 51 | 50 | 49 | 48 | 47 | 46 | 45 | 44 | 43 | 42 | 41 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| CONNECTION | F2 | F2 | NP | NP | aB | bB | cB | dB | eB | fB | gB | hB | iB | jB | kB | lB | mB |

# PACKING VIEW




NOTE:
N : Only USA model
W: Only 120/220V model
I : Only Italy model
QB: Only U.K. model

### D Model

| REF NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 1 | 29051713 | Master carton box |
| 2 | 29091264A | Pad (L) |
| 3 | 29091265A | Pad (R) |
| 4 | 29100105 | 620 × 550 Poly bag |
| 5 | 282301 | Sealing hook |
| 6 | 260012 | Damplon tape |
| 7 | Accessary bag ass'y | |
| | 29341280A | Instruction manual |
| | 2010098A | Connection cable |
| | 29365019 | Waranty card (N) |
| | 29358002F | Service station list (N) |
| | 29100006A | 350 × 250 Poly bag |

### G/W Model.

| REF NO. | PART NO. | DESCRIPTION |
|---|---|---|
| 1 | 29051713 | Master carton box |
| 2 | 29091264A | Pad (L) |
| 3 | 29091265A | Pad (R) |
| 4 | 29100105 | 620 × 550 Poly bag |
| 5 | 282301 | Sealing hook |
| 6 | 260012 | Damplon tape |
| 7 | Accessary bag ass'y | |
| | 29341279 | Instruction manual |
| | 29341281 | Instruction manual (I) |
| | 2010098A | Connection cable |
| | 29100006A | 350 × 250 Poly bag |
| | 29365022 | Waranty card (QB) |
| | 25055018 | Convertion Plug (CV-K-1) (W) |

# PC BOARD PARTS LIST

**NAAF-3334-1**

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **ICs** | |
| Q101 | 222999 | CX-20187 |
| Q151 | 222502 | NJM-4558DX |
| Q160 | 222078 | NHIC-3205 |
| Q203 | 222999 | CX-20187 |
| Q215 | 222502 | NJM-4558DX |
| Q301 | 22240111 or | BA15218 or |
| | 222808 | M5218P |
| Q303 | 222940 | BA335H |
| Q401 | 222502 | NJM-4558DX |
| Q403 | 22240111 or | BA15218 or |
| | 222808 | M5218P |
| Q407 | 222959 | μPC1297CA |
| Q415 | 222921 or | BA4558 or |
| | 222465 | NJM-4558D |
| Q701 | 22240169 | HD614042SH57 |
| Q706, Q709 | 222953 | M-54544AL |
| Q901, Q902 | 222780125MIT | 78M12 |
| Q906 | 222780055MIT | 78M05 |
| | **Transistors** | |
| Q103 | 2211255 or | 2SC1815-GR or |
| | 2210746 | 2SC945-AP |
| Q104 | 2211455 or | 2SA1015-GR or |
| | 2212495 | JA101Q |
| Q153, Q154 | 2211406 or | 2SC2240-BL or (G) |
| | 2211896 | 2SC1815LL |
| Q155, Q156 | 2211455 or | 2SA1015-GR or (G) |
| | 2212495 | JA101Q |
| Q205-Q209 | 2211255 or | 2SC1815-GR or |
| | 2210746 | 2SC945-AP |
| Q210 | 2211455 or | 2SA1015-GR or |
| | 2212495 | JA101Q |
| Q211-Q214 | 2212304 or | 2SK381-D or |
| | 2211945 | 2SK246-GR |
| Q219, Q220 | 2211255 or | 2SC1815-GR or |
| | 2210746 | 2SC945-AP |
| Q221, Q222 | 2211706 | 2SD655-F |
| Q223, Q224 | 2212304 or | 2SK381-D or (G) |
| | 2211945 | 2SK246-GR |
| Q225, Q226 | 221281 | DTC114YS |
| Q227 | 2211455 or | 2SA1015-GR or |
| | 2212495 | JA101Q |
| Q405, Q406 | 2212794 or | 2SD1468-R or |
| | 2212795 | 2SD1468-S |
| Q422 | 2211455 or | 2SA1015-GR or |
| | 2212495 | JA101Q |
| Q423, Q424 | 221282 | DTC144ES |
| Q425 | 2201540 | 2SD947 |
| Q426-Q428 | 2211455 or | 2SA1015-GR or |
| | 2212495 | JA101Q |
| Q429, Q430 | 221282 | DTC144ES |
| Q703 | 2213090 | DTA114YS |
| Q704 | 221281 | DTC114YS |
| Q705 | 2201385 | 2SD330-E |
| Q707 | 221281 | DTC114YS |
| Q708 | 2201540 | 2SD947 |
| Q710 | 2201540 | 2SD947 |
| Q711 | 2211255 or | 2SC1815-GR or |
| | 2210746 | 2SC945-AP |
| Q712 | 2213090 | DTA114YS |
| Q713 | 2211455 or | 2SA1015-GR or |
| | 2212495 | JA101Q |
| Q714 | 2211255 or | 2SC1815-GR or |
| | 2210746 | 2SC945-AP |
| Q715 | 221282 | DTC144ES |
| Q716 | 2211255 or | 2SC1815-GR or |
| | 2210746 | 2SC945-AP |
| Q717 | 221282 | DTC144ES |
| Q903 | 2211455 or | 2SA1015-GR or |
| | 2212495 | JA101Q |
| Q904 | 2201924 or | 2SD1761-E or |
| | 2201385 | 2SD330-E |
| Q905 | 2211255 or | 2SC1815-GR or |
| | 2210746 | 2SC945-AP |
| | **Diodes** | |
| D101, D102 | 224450822, | MTZ8.2B, |
| | 224150822 or | 05AZ8.2Y or |
| | 224650822 | HZ8.2EB2 |
| D151-D154 | 223163 | 1SS133 |
| D201, D202 | 224450822, | MTZ8.2B, |
| | 224150822 or | 05AZ8.2Y or |
| | 224650822 | HZ8.2EB2 |
| D205, D206 | 223163 | 1SS133 (G) |
| D207-D211 | 223163 | 1SS133 |
| D401 | 223163 | 1SS133 |
| D406-D411 | 223163 | 1SS133 |
| D702 | 224451003, | MTZ10C, |
| | 224151003 or | 05AZ10Z or |
| | 224651003 | HZ10EB3 |
| D703 | 224450562, | MTZ5.6B, |
| | 224150562 or | 05AZ5.6Y or |
| | 224650562 | HZ-5.6E-B2 |
| D704, D705 | 223163 | 1SS133 |
| D901-D906 | 22380006 or | 1N4003 or |
| | 223894 | 1N4002F |
| D907 | 224452001, | MTZ20A, |
| | 224152001 or | 05AZ20X or |
| | 224652001 | HZ20EB1 |
| D908 | 224450511, | MTZ5.1A, |
| | 224150511 or | 05AZ5.1X or |
| | 224650511 | HZ5.1EB1 |
| D909 | 22380006 or | 1N4003 or |
| | 223894 | 1N4002F |
| D910 | 224451501, | MTZ15C, |
| | 224151501 or | 05AZ15X or |
| | 224651501 | HZ15EB1 |
| D911, D912 | 223163 | 1SS133 |
| | **Coils** | |
| L101, L102 | 231147 | NCH-4199 |
| L103, L104 | 233382 | NMC-2069 |
| L201, L202 | 233328 | NMC-6051 |
| L203, L204 | 233382 | NMC-2069 |
| L407, L408 | 231101 | NCH-2148 |
| L409, L410 | 231100 | NCH-4147 |
| L411, L412 | 231077 | NCH-2125 |
| | **OSC Block** | |
| Z401 | 24606198 | NOB-029 |
| | **Ceramic OSC** | |
| X701 | 3010099 or | CSA-4.00MG or |
| | 3010128 | PRS-4.00RM11 |
| | **Capacitors** | |
| C103, C104 | 354722219 | 220μF6.3V, ELECT. |
| C105, C106 | 354741009 | 10μF16V, ELECT. |
| C107, C108 | 354741009 | 10μF16V, ELECT. |
| C115, C116 | 354744719 | 470μF16V, ELECT. |
| C139, C140 | 354741009 | 10μF16V, ELECT. |
| C141, C142 | 354741019 | 100μF16V, ELECT. |
| C143, C144 | 354742219 | 220μF16V, ELECT. |
| C147 | 354742209 | 22μF16V, ELECT. |

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| C151, C152 | 392880107 | 1μF50V, LL. |
| C153, C154 | 392880107 | 1μF50V, LL. (G) |
| C155, C156 | 354782299 | 0.22μF50V, ELECT. (G) |
| C157, C158 | 354741019 | 100μF16V, ELECT. (G) |
| C201, C202 | 354780479 | 4.7μF50V, ELECT. |
| C203, C204 | 352950476 | 4.7μF25V, NP. |
| C231, C232 | 354741009 | 10μF16V, ELECT. |
| C233, C234 | 354741019 | 100μF16V, ELECT. |
| C235, C236 | 354742219 | 220μF16V, ELECT. |
| C237 | 354780479 | 4.7μF50V, ELECT. |
| C243, C244 | 354741009 | 10μF16V, ELECT. |
| C245 | 354780479 | 4.7μF50V, ELECT. |
| C246 | 354744709 | 47μF16V, ELECT. |
| C247, C248 | 354780479 | 4.7μF50V, ELECT. |
| C249 | 354741009 | 10μF16V, ELECT. |
| C301, C302 | 354741009 | 10μF16V, ELECT. |
| C303 | 354780229 | 2.2μF50V, ELECT. |
| C305 | 354781099 | 0.1μF50V, ELECT. |
| C306 | 354784799 | 0.47μF50V, ELECT. |
| C327 | 354780479 | 4.7μF50V, ELECT. |
| C328 | 354741009 | 10μF16V, ELECT. |
| C401, C402 | 354741009 | 10μF16V, ELECT. |
| C403, C404 | 354780479 | 4.7μF50V, ELECT. |
| C405, C406 | 354782299 | 0.22μF50V, ELECT. |
| C407, C408 | 354780479 | 4.7μF50V, ELECT. |
| C431, C432 | 370131014S | 100PF 100V, APS |
| C433, C434 | 370134714S | 470PF 100V, APS |
| C438, C439 | 354741009 | 10μF16V, ELECT. |
| C440, C441 | 3547222195 | 220μF6.3V, ELECT. |
| C442-C444 | 354780479 | 4.7μF50V, ELECT. |
| C708 | 354780229 | 2.2μF50V, ELECT. |
| C716 | 354741009 | 10μF16V, ELECT. |
| C902, C903 | 3547522295 | 2200μF25V, ELECT. |
| C904, C905 | 354784799 | 0.47μF50V, ELECT. |
| C906, C907 | 354780479 | 4.7μF50V, ELECT. |
| C908 | 3547510295 | 1000μF25V, ELECT. |
| C909 | 354741019 | 100μF16V, ELECT. |
| C910 | 354744709 | 47μF16V, ELECT. |
| C911 | 3504168 | 13000μF25V, ELECT. |
| C912, C913 | 354784799 | 0.47μF50V, ELECT. |
| C914 | 354780479 | 4.7μF50V, ELECT. |
| | **Resistors** | |
| R107, R108 | 5210062 | N06HR 4.7KBD |
| R413, R414 | 5210062 | N06HR 4.7KBD |
| R467, R468 | 5215045 or | N08HR 10KBC or |
| | 5215021 | N08HR 10KBC |
| R473 | 442525604 | RS1/2WBJ 56Ω |
| R476 | 442525604 | RS1/2WBJ 56Ω |
| R704 | 49163104407 | 100kΩ×7, 1/10W, NETWORK |
| R707 | 49163392405 | 3.9kΩ×5, 1/10W, NETWORK |
| R710 | 441722704 | RS 2 WBJ 27Ω |
| R737 | 49163392407 | 3.9kΩ×7, 1/10W, NETWORK |
| R738 | 49163392409 | 3.9kΩ×9, 1/10W, NETWORK |
| R903-R904 | 442522294 | RS1/2WBJ 0.22Ω |
| R905 | 442520224 | RS1/2WBJ 2.2Ω |
| R908 | 441724704 | RS 2 WBJ 47Ω |
| R909 | 442520104 | RS1/2WBJ 1.0Ω |
| | **Plugs** | |
| P101 | 25055134 | NPLG-4P118 |
| P103 | 25045208 | NPJ-4PDBL88 |
| P105 | 25050064 | NSCT-5P18, DIN SOCKET (G) |
| P107, P108 | 25055147 | NPLG-3P131 |
| P303A | 2000878 | NSAS-6P834, SOCKET |
| P307 | 25055186 | NPLG-5P170 |
| P401 | 25055184 | NPLG-3P168 |
| P405 | 25055134 | NPLG-4P118 |
| P407 | 25055132 | NPLG-2P116 |
| P501L, P502R | 25055146 | NPLG-2P130 |
| P701 | 25055187 | NPLG-6P171 |
| P702 | 25055188 | NPLG-7P172 |
| P704 | 25055185 | NPLG-4P169 |
| P705, P706 | 25055149 | NPLG-5P133 |
| P708 | 25055149 | NPLG-5P133 |
| P709A | 2000873 | NSAS-18P829 |
| P710 | 25055140 | NPLG-10P124 |
| P712 | 25045172 | HSJ-1003-01-020 |
| | **Miscellaneous** | |
| | 27160211-1 | RAD-68B, RADIATOR |
| | 27160227 | RAD-076, RADIATOR |
| | 27160211 | RAD-68, RADIATOR |
| | 27141283 | BRACKET(HT) |
| | 82143006 | 3P+6FN(BC), SCREW |
| | 880016 | NRP-335, PLASTIC RIVET |

### NADIS-3336-1

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| D913, D914 | 225142 | SEL2913K, LED |
| | 27190499A | HOLDER(LED), POW |

### NASW-3337-1

| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| S721 | 25030289 | NRSF-123-25MP |

### NAETC-3338-1

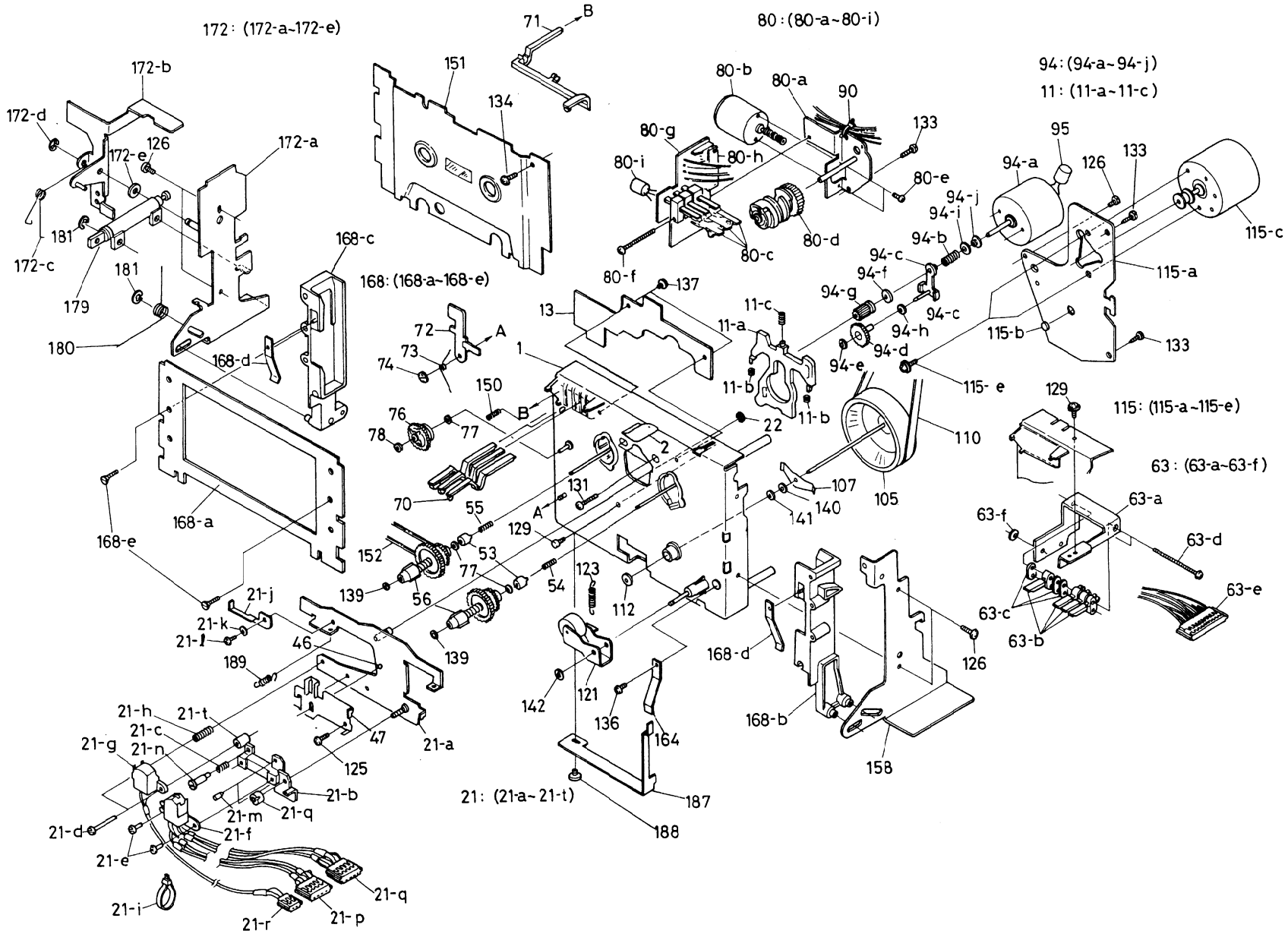
| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| P301 | 25045139 | HLJ0504-01-010 |

### NADIS-3339-1

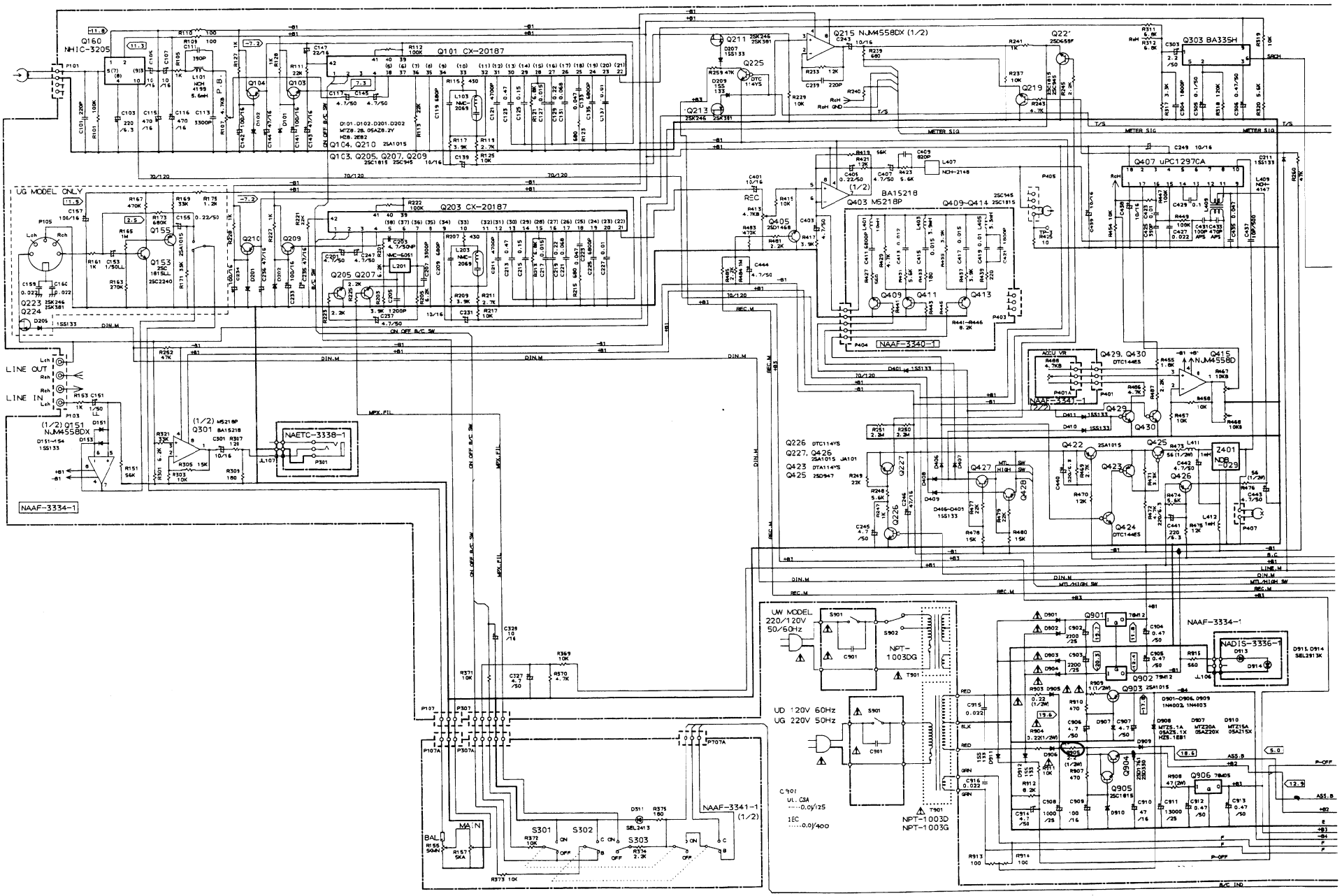
| CIRCUIT NO. | PART NO. | DESCRIPTION |
|---|---|---|
| | **IC** | |
| Q501 | 22240170 | BA6800AS |
| Q720 | 22240084 | HD614128SA41 |
| | **Display tube** | |
| Q722 | 212056 | BG-555G |
| | **Transistor** | |
| Q503, Q504 | 2213090 | DTA114YS |
| Q723, Q724 | 2211255 or | 2SC1815GR or |
| | 2210746 | 2SC945A-P |
| | **Ceramic OSC** | |
| X702 | 3010118 or | CSA3.00MG or |
| | 3010129 | PRS-3.00RM03 |
| | **Capacitor** | |
| C501, C502 | 354741009 | 10μF16V, ELECT |
| C503, C504 | 354742209 | 22μF16V, ELECT |
| C720 | 354741009 | 10μF16V, ELECT |
| | **Resistor** | |
| R501, R502 | 5215020 | N08HR5KBC |
| R509 | 49163104415 | 100k×15, 1/10W |
| | **Socket, plug** | |
| P501A | 2000879 | NSAS-8P835 |
| P703 | 25055226 | NPLG-4P210 |
| P705A | 2000757 | NSAS-10P713 |
| P706A | 2000649 | NSAS-10P605 |
| P707 | 25055225 | NPLG-3P209 |
| P708A | 2000874 | NSAS-10P830 |

A B C D E F G H

# TAPE MECHANISM-EXPLODED VIEW



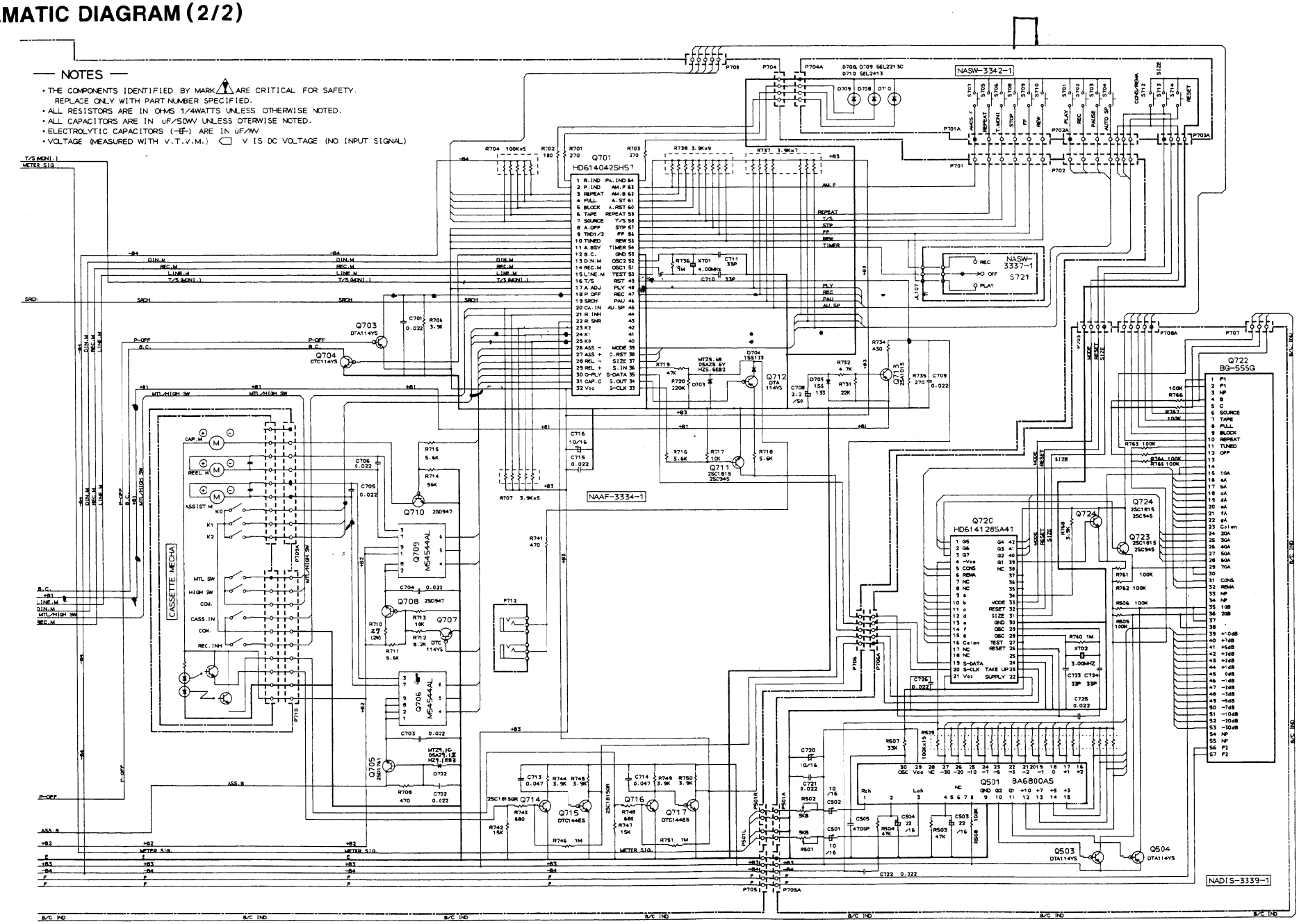
# SCHEMATIC DIAGRAM (1/2)




ONKYO CORPORATION

A | B | C | D | E | F | G | H

# SCHEMATIC DIAGRAM (2/2)


— NOTES —
• THE COMPONENTS IDENTIFIED BY MARK ⚠ ARE CRITICAL FOR SAFETY. REPLACE ONLY WITH PART NUMBER SPECIFIED.
• ALL RESISTORS ARE IN OHMS 1/4WATTS UNLESS OTHERWISE NOTED.
• ALL CAPACITORS ARE IN uF/50WV UNLESS OTERWISE NOTED.
• ELECTROLYTIC CAPACITORS (—|(—) ARE IN uF/WV
• VOLTAGE (MEASURED WITH V.T.V.M.) ☐ V IS DC VOLTAGE (NO INPUT SIGNAL)
NASW-3342-1
NAAF-3334-1
NASW-3337-1
NADIS-3339-1
Q701 HD614042SH57
Q720 HD614128SA41
Q722 BG-555G
Q501 BA6800AS
CASSETTE MECHA

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